5,586,479 (Roy *et al.*). The Examiner contends that Roy *et al.* discloses a cutting device with every structural limitation of the claimed invention including a first pair of rollers (e.g., 56, 62) which are coupled and thus driven together by a first motor; a cutting assembly (e.g., 60) which is driven by a second motor; a third motor (e.g., 84) pivoting one of the cutting assembly and the pair of rollers; a reading system having first (e.g., 58A) and second (e.g., 58B) spaced apart optical sensors; and a micro-processor (e.g., 30). The Examiner also contends, in the alternative, if it is argued that Roy *et al.* does not explicitly disclose a first motor and a second motor, the Examiner takes official notice that such a configuration is old and well known in the art and therefore would have been obvious to one having ordinary skill in the art to provide a first and second motor of the present invention. Applicant respectfully traverses this rejection.

Claim 1 as amended recites, *inter alia*,

> a microprocessor (12) in communication with said reading system and the second motor (9) and the third motor (5), the microprocessor (12) processing a signal from the reading system, recognizing the boundary marks (M) and controlling the second and third motors (9, 5),
>
> wherein each of the boundary marks (M) is a preset sequence, stored in said microprocessor (12), of white and black lines extending at least along a whole edge of each of said images (10) oriented at right angles to a feed direction of the substrate.

Applicant has amended claim 1 to more particularly point out and claim that the processing of the signal from the reading system includes not only detection of a boundary mark but also recognition of the boundary mark. As disclosed in the specification, see page 5, lines 8-32, recognition of the boundary mark is linked to at least one or more of the following:

- the cutting mark consists of a precise black/white sequence stored in the microprocessor, which can recognize through scanning any type of mark with set features without any limit in size;

- during the scan, the device microprocessor stores the level of intensity of the white and black lines in order to create thresholds of acceptance and recognition;

- each line is also measured in thickness with a precision of 0.05 mm and is then compared with the corresponding stored size; (and)

- the sum of the lines must correspond to the storage sum so as to prevent the tolerances, by adding up together, from causing errors.

Roy *et al.* discloses a cutting apparatus 26 that determines the amount of skew of images on an edge registered receiving sheet by detecting with a sensor device the lead edge of the images. The disclosed sensor device indicates to a logic/control 30 that the leading edge of the image has been detected when a pair of photodiodes senses a discontinuity in the reflectance of the receiving sheet. The change in reflectance arises from the presence of pigmented toner at the lead edge of the image.

Roy *et al.* acknowledges that a change in reflectance may not be detected if there is no pigmented toner at the lead edge of the image. (See Col. 5, ln. 1 *et seq.*) Roy *et al.* also discloses that this problem could possible be resolved by placing at the leading edge of an image a small dark mark such as several extra lines of data that could be added by a raster image processor 46 to the bit map just ahead of the lead edge of an image that is electro photographically transferred to the receiving sheet. Alternatively, Roy *et al.* suggests application of clear toner to any area not having pigmented toner when the image is created.

In all scenarios disclosed by Roy *et al.*, detection of the lead edge of an image is based solely on the sensing of a discontinuity in the reflectance of the receiving sheet. Roy *et al.* does not disclose as a feature recognizing the boundary marks (M). Additionally, there is no teaching in Roy *et al.* that would lead one of ordinary skill in the art to modify the Roy *et al.* device to include as a feature recognition of the boundary mark in addition to detection of the boundary mark. Accordingly, Applicant respectfully submits that Roy *et al.* does not disclose

each and every element of the present invention and does not provide an objective teaching that would render the present invention obvious. Therefore, Applicant respectfully requests that the rejection of claims 1 and 2 be withdrawn.

Claim Rejections – 35 U.S.C. §103

The Examiner has rejected claim 8 under 35 U.S.C. §103(a) as being unpatentable over Roy *et al.* The Examiner admits that Roy *et al.* lacks the cutting assembly having first and second parallel spaced apart blades. The Examiner takes official notice that such a cutter configuration is old and well known in the art and that it would have been obvious to one of ordinary skill in the art to provide to provide first and second parallel spaced apart blades in the present invention. Applicant respectfully traverses this rejection.

In view of the above discussion regarding amended claim 1, even if the Roy *et al.* cutting apparatus were modified to include first and second parallel spaced apart blades, claim 8, depending from claim 1 is patentably distinguishable over the combination. Accordingly, Applicant respectfully requests that the rejection of claim 8 be withdrawn.

CONCLUSION

In view of the foregoing amendment and remarks, Applicant respectfully submits that the present application, including claims 1, 2 and 8, is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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(Date)

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MGB/RAW/cbf

1. (Twice Amended) An automatic device for trimming and cutting at right angles paper and other graphic and photographic substrates (1) with a series of images (10) printed thereon and marked by boundary marks (M), comprising:

at least a pair of rollers (2) for feeding the substrate,

a first motor (3) driving the pair of rollers,

a cutting assembly (7) spaced apart from the pair of rollers,

a second motor (9) driving the cutting assembly to cut,

a third motor (5) pivoting one of the cutting assembly and the pair of rollers from time to time to align said cutting assembly (7) and one of said boundary marks (M),

a reading system having first and second spaced apart optical sensors (4, 4') that detect one of the boundary marks (M) between the images, and

a microprocessor (12) in communication with said reading system and the second motor (9) and the third motor (5), the microprocessor (12) processing a signal from the reading system, recognizing the boundary marks (M) and controlling the second and third motors (9, 5),

wherein each of the boundary marks (M) is a preset sequence, stored in said microprocessor (12), of white and black lines extending at least along a whole edge of each of said images (10) oriented at right angles to a feed direction of the substrate.